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                   Patent Office Classifications
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 NEWS 12  SEP 14   STN Patent Forum to be held October 13, 2004, in Iselin, NJ
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=> s microtiter and reader
L1          470 MICROTITER AND READER

=> s l1 and software
L2           20 L1 AND SOFTWARE

=> s l2 and py<2000
L3           17 L2 AND PY<2000

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L4 ANSWER 1 OF 12 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
AN 1997:216887 BIOSIS
DN PREV199799523391
TI Rapid evaluation of plant extracts and essential oils for antifungal activity against Botrytis cinerea.
AU Wilson, C. L. [Reprint author]; Solar, J. M.; Ghaouth, A. El; Wisniewski, M. E.
CS USDA-ARS Appalachian Fruit Res. Stn., Kearneysville, WV 25430, USA
SO Plant Disease, (1997) Vol. 81, No. 2, pp. 204-210.
CODEN: PLDIDE. ISSN: 0191-2917.
DT Article
LA English
ED Entered STN: 22 May 1997
Last Updated on STN: 22 May 1997
AB A rapid assay to determine antifungal activity in plant extracts and essential oils is described. Wells in **microtiter** plates were loaded with Botrytis cinerea spores and plant extracts or essential oils. Subsequent changes in optical density following spore germination in the wells was measured after 24 h using an automatic **microtiter** plate **reader** driven by a **software** program developed for this purpose. Extracts from 345 plants and 49 essential oils were evaluated for their antifungal activity against B. cinerea. Among 345 plant extracts analyzed, 13 showed high levels of antifungal activity, with species of Allium and Capsicum predominating. Among the 49 essential oils tested, palmarosa (Cymbopogon martini), red thyme (Thymus zygis), cinnamon leaf (Cinnamomum zeylanicum), and clove buds (Eugenia caryophyllata) demonstrated the most antifungal activity against B. cinerea The most frequently occurring constituents in essential oils showing high antifungal activity were: D-limonene, cineole; beta-myrcene; alpha-pinene, beta-pinene; and camphor.

L4 ANSWER 2 OF 12 MEDLINE on STN
AN 1998062498 MEDLINE
DN PubMed ID: 9398357
TI Continuous assay of proteases using a **microtiter** plate fluorescence **reader**.
AU Menges D A; Ternullo D L; Tan-Wilson A L; Gal S
CS Department of Biological Sciences, State University of New York at Binghamton, Binghamton, New York 13902-6000, USA.
SO Analytical biochemistry, **(1997 Dec 1)** 254 (1) 144-7.
Journal code: 0370535. ISSN: 0003-2697.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199801
ED Entered STN: 19980206
Last Updated on STN: 20000303
Entered Medline: 19980127

L4 ANSWER 3 OF 12 MEDLINE on STN DUPLICATE 1
AN 96089304 MEDLINE
DN PubMed ID: 8585615
TI Photometric **microtiter** assay of inorganic phosphate in the presence of acid-labile organic phosphates.
AU Drueckes P; Schinzel R; Palm D
CS Theodor-Boveri-Institut fur Biowissenschaften (Biocenter) of the University, Wurzburg, Germany.
SO Analytical biochemistry, **(1995 Sep 1)** 230 (1) 173-7.
Journal code: 0370535. ISSN: 0003-2697.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199603
ED Entered STN: 19960327
Last Updated on STN: 19970203
Entered Medline: 19960321
AB A simple and rapid colorimetric microassay for inorganic phosphate in the mild acid pH range has enabled us to perform extensive enzyme kinetic studies even in the presence of high concentrations of acid-labile substrates. The assay is performed in a 96-well **microtiter** plate using 30-microliters samples containing between 0.5 and 100 nmol Pi. Compared to existing microassays, color formation is linear over a much wider range of phosphate concentrations and reaction conditions. Using a computer-assisted **microtiter** plate **reader**, the data can be directly transferred to kinetic analysis **software**. The above assay was used to determine simultaneously up to 12 rates of the Escherichia coli maltodextrin phosphorylase-catalyzed reaction in the direction of glycogen synthesis under conditions which include screening of substrates and inhibitors at variable substrate concentrations and pH on a single 96-well **microtiter** plate.

L4 ANSWER 4 OF 12 MEDLINE on STN
AN 94035792 MEDLINE
DN PubMed ID: 7693246
TI [Partially automated antigen determination and antibody detection with **microtiter** plates].
Teilautomatisierte Antigenbestimmung und Antikorpersuche auf Mikrotitrationsplatten.
AU Rapp C; Weisshaar C
CS Blutspendedienst Hessen des DRK, Institut Kassel, BRD.
SO Beitrage zur Infusionstherapie = Contributions to infusion therapy, **(1993)** 31 157-61.
Journal code: 8812367. ISSN: 1011-6974.
CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
LA German
FS Priority Journals; AIDS
EM 199312
ED Entered STN: 19940117
Last Updated on STN: 19960129
Entered Medline: 19931203
AB In addition to several conventional methods for the detection of red cell antigens, the use of microplates has various advantages either as a solid-phase assay (enzyme immunoassay) or as native microplate. Microplates may also be used for the detection of red cell antibodies in 'pooled-cell solid-phase assays' of the second generation and for antibody screening. Blood donors and patients are the two main fields which are to be examined in immunohematology. There are various advantages in using the microplate in blood group serology: (i) if there is hardware already available, like sample processors and microplate **readers**, the use of microplates in blood group serology reduces the costs even if the equipment has to be purchased for this purpose only; (ii) low quantities of reagents are used in microplate assays; (iii) the application of bar codes on tubes and microplates guarantees the most security in sample identification; (iv) it is possible to investigate blood samples selectively depending on the available **software** if antibody

detection is done as the sixth test beside anti-HIV, anti-HCV, HBsAG, lues antibodies and ALT, and (v) recording of data will be easy if electronic data processing is used.

L4 ANSWER 5 OF 12 MEDLINE on STN DUPLICATE 2
AN 91150832 MEDLINE
DN PubMed ID: 2291479
TI **Microtiter** plate assay for the measurement of glutathione and glutathione disulfide in large numbers of biological samples.
AU Baker M A; Cerniglia G J; Zaman A
CS Department of Radiation Oncology, University of Pennsylvania, Philadelphia 19104.
NC CA 4498-03 (NCI)
SO Analytical biochemistry, **(1990 Nov 1)** 190 (2) 360-5.
Journal code: 0370535. ISSN: 0003-2697.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199104
ED Entered STN: 19910419
Last Updated on STN: 19980206
Entered Medline: 19910402
AB By combining the least complicated and expedient methods of sample handling with the sensitivity and specificity of the GSH assay by enzymatic recycling and the small volumes and **software** capabilities of **microtiter** plate technology we have devised a rapid, sensitive, and easy assay for GSH and GSSG in biological samples. The assay is sensitive to 5 pmol in sample volumes of 50 microliters, although other volumes could be used. The use of a computer-driven microplate with **software** capable of linear kinetic data storage and analysis on each well, Maxline series microplate **readers** and Softmax **software**, enables the user not only to assay large numbers of samples per day but also to have immediate calculated results. We suggest by examples that measurements of total GSH as well as changes in GSH:GSSG in vitro and in vivo are feasible with this technology.

L4 ANSWER 6 OF 12 MEDLINE on STN DUPLICATE 3
AN 90250531 MEDLINE
DN PubMed ID: 2187070
TI Automation and computerization of chromogenic LAL assay method for bacterial endotoxin using 96-well **microtiter** plate.
AU Schadewald L K; Martin D G; Tsuji K
CS Pharmaceutical Quality Control Division, Upjohn Company, Kalamazoo, Michigan.
SO Journal of parenteral science and technology : a publication of the Parenteral Drug Association, **(1990 Mar-Apr)** 44 (2) 50-3.
Journal code: 8103145. ISSN: 0279-7976.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199006
ED Entered STN: 19900720
Last Updated on STN: 19900720
Entered Medline: 19900618
AB A high degree of automation was achieved for a chromogenic substrate Limulus amebocyte lysate (LAL) assay method for bacterial endotoxin using a Cetus Pro/Group Liquid Handler and 96-well **microtiter** plates. A Titertek Multiskan **Reader** was interfaced with an IBM PC using a LOTUS MEASURE **software** to capture optical density values of samples in a LOTUS 1-2-3 spreadsheet. A password protected, menu-driven macro programmed in LOTUS 1-2-3 automates the calculation, evaluation of assay parameters, documentation, and generation of a formatted three-page report suitable as a primary record. All assay operations, including testing 19 samples against a four-point standard curve in replicates of four each, the calculation of results, and generation of a report, are completed in less than 40 minutes. The relative standard deviation (RSD) of the assay is approximately 7%, which compares favorably with the robot

automated system.

L4 ANSWER 7 OF 12 MEDLINE on STN
AN 90054316 MEDLINE
DN PubMed ID: 2510548
TI A **microtiter** plate-based system for the semiautomated growth and assay of bacterial cells for beta-galactosidase activity.
AU Menzel R
CS E.I. du Pont de Nemours, Central Research and Development Department, Wilmington, Delaware 19880-0328.
SO Analytical biochemistry, **(1989 Aug 15)** 181 (1) 40-50.
Journal code: 0370535. ISSN: 0003-2697.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198912
ED Entered STN: 19900328
Last Updated on STN: 19900328
Entered Medline: 19891212
AB The introduction of automated pipetting devices, **microtiter readers**, and microcomputers makes it possible to significantly increase the number of enzyme assays which can be performed as part of the analysis of a biological process. A number of difficulties must be overcome in any such integrated approach based on the **microtiter** plate. Among these are cell lysis, temperature control, the conversion of **microtiter reader** optical density values to standard 1-cm path length values, and data management. The utility of such a scheme can be extended to gene regulation and bacterial genetics studies, if bacterial cell culture techniques can be incorporated into the scheme. This paper addresses these issues in the application of a semiautomated system to the study of the induction of the gyrA promoter by treatment (of a gyrA-lac operon fusion-containing strain) with a gyrase inhibitor. This system is specific to the requirements of our studies into the modulation of gene expression by DNA relaxation. The general approach, however, can be readily adapted to other studies.

L4 ANSWER 8 OF 12 MEDLINE on STN DUPLICATE 4
AN 89029125 MEDLINE
DN PubMed ID: 3141087
TI Lactobacillus casei microbiological assay of folic acid derivatives in 96-well **microtiter** plates.
AU Horne D W; Patterson D
CS Department of Biochemistry, Vanderbilt University School of Medicine, Nashville, TN 37232.
NC DK32189 (NIDDK)
SO Clinical chemistry, **(1988 Nov)** 34 (11) 2357-9.
Journal code: 9421549. ISSN: 0009-9147.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198812
ED Entered STN: 19900308
Last Updated on STN: 19970203
Entered Medline: 19881222
AB Microbiological assay is still widely used for estimating folic acid derivatives in serum and other biological samples. We describe here a modification of this procedure involving use of 96-well **microtiter** plates. This procedure, used with modern, computer-interfaced **microtiter**-plate **readers** and data-reduction **software**, greatly shortens the time and minimizes reagent costs for this assay. Under the conditions of our assay procedures, all folic acid derivatives tested gave equal growth response for Lactobacillus casei. Results for assays of rat liver extracts showed excellent agreement between the standard bioassay and the 96-well procedure.

L4 ANSWER 9 OF 12 MEDLINE on STN DUPLICATE 5
AN 87252300 MEDLINE

DN PubMed ID: 3598197
TI Rapid data acquisition from a **microtiter** plate fluorescence **reader** and applications in kinetic measurements.
AU Hesford F; Schmitt M; Lazary S
SO Journal of immunological methods, **(1987 Jun 26)** 100 (1-2) 269-79.
Journal code: 1305440. ISSN: 0022-1759.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198708
ED Entered STN: 19900305
Last Updated on STN: 19970203
Entered Medline: 19870807
AB Programs written in Applesoft BASIC for the rapid acquisition and evaluation of data from a commercially available **microtiter** plate fluorescence **reader** are presented. Using the data acquisition program, the relative fluorescence readings from all 96 wells of the **microtiter** plate (one read cycle of the fluorescence **reader**) can be stored in each of up to 90 consecutively numbered files on a single-sided diskette. A simple timer circuit is described which, when used in conjunction with the above program, initiates the fluorescence reading process at preset time intervals, thus making automatic acquisition of data possible. A further program plots the data from consecutive files on the computer monitor and prints a hard copy if required. The feasibility of applying the above system and **software** to kinetic measurements in enzyme systems is demonstrated using methylumbelliferyl phosphate and an alkaline phosphatase/immunoglobulin conjugate. In addition, its use in following the formation of extracellular hydrogen peroxide by stimulated polymorphonuclear leukocytes using horseradish peroxidase-coupled oxidation of the fluorescent compound 7-hydroxy-6-methoxy-coumarin (scopoletin) is described.

L4 ANSWER 10 OF 12 MEDLINE on STN
AN 86249587 MEDLINE
DN PubMed ID: 3013781
TI A rapid, flexible method for biochemical assays using a **microtiter** plate **reader** and a microcomputer. Application for assays of protein, Na,K-ATPase and K-p-nitrophenylphosphatase.
AU Loomis T C; Stahl W L
SO International journal of bio-medical computing, **(1986 May)** 18 (3-4) 183-92.
Journal code: 0252005. ISSN: 0020-7101.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198608
ED Entered STN: 19900321
Last Updated on STN: 19900321
Entered Medline: 19860814
AB A computerized system which greatly accelerates and eases the collection, storage, and analysis of data has been applied to several standard biochemical assays. The system uses a commercially available **microtiter** plate **reader** connected to an Apple IIe microcomputer via a standard serial port. Data are transmitted automatically from the **reader** to the microcomputer, where they can be viewed, printed, further analyzed immediately, or stored on a diskette for later retrieval and processing. Some or all of the data may be entered manually. The program calculates a linear least squares best fit to a standard curve after correcting all data for blanks, then determines the quantities of substrate or product contained in each well of a **microtiter** plate. Data from two plates may be combined, enabling calculation of enzyme specific activities. This system can be adapted to any assay whose final step can be performed by a **microtiter** plate **reader**. Its use is described for determination of protein concentration, Na,K-ATPase activity, and

K-stimulated p-nitrophenylphosphatase activity.

L4 ANSWER 11 OF 12 MEDLINE on STN
AN 85056366 MEDLINE
DN PubMed ID: 6389704
TI A computer program for the evaluation of ELISA data obtained using an automated **microtiter** plate absorbance **reader**.
AU Caulfield M J; Shaffer D
NC AI-18334 (NIAID)
SO Journal of immunological methods, **(1984 Nov 30)** 74 (2) 205-15.
Journal code: 1305440. ISSN: 0022-1759.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198501
ED Entered STN: 19900320
Last Updated on STN: 19970203
Entered Medline: 19850123
AB A new computer program is described which calculates titers and antibody concentrations from ELISA data. Optical densities are measured in 96-well **microtiter** plates using an automated colorimeter and simultaneously fed into a microcomputer. The data can then be arranged and printed in an 8 X 12 format corresponding to the format of a 96-well **microtiter** plate. The computer program can also compute the titers of samples if the samples are arranged and titrated in one of the suggested formats. In addition, the titers of unknown samples can be automatically compared with the titer of a standard to obtain concentrations. An ELISA designed to measure the concentration of murine antibodies to the cell wall polysaccharide (PnC) extracted from Streptococcus pneumoniae was performed to document the use of the program.

L4 ANSWER 12 OF 12 MEDLINE on STN
AN 84089058 MEDLINE
DN PubMed ID: 6418819
TI A computer-based data analysis system for enzyme-linked immunosorbent assays.
AU Slezak T R; Vanderlaan M; Jensen R H
SO Journal of immunological methods, **(1983 Dec 16)** 65 (1-2) 83-95.
Journal code: 1305440. ISSN: 0022-1759.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198402
ED Entered STN: 19900319
Last Updated on STN: 19900319
Entered Medline: 19840214
AB A computerized system is presented for automating the data collection, processing, and displaying tasks involved in enzyme-linked immunosorbent assays. This system uses a through-the-well absorbance **reader** of **microtiter** plates interfaced to a minicomputer running the UNIX operating system. Optical density in each well of a 96-well **microtiter** plate is recorded as a function of time for up to 10 time points. These data are automatically transmitted to the remote computer. The rate of product formation is then calculated for each well, and a battery of analysis, display, and comparison programs can then be used by the researcher for data presentation. Using the initial rate of reaction as the basis for quantifying enzyme-linked immunosorbent assays focuses on the catalytic property of the enzyme and allows a large dynamic range of the assay on any plate. These programs can be adapted to virtually any mini- or microcomputer with a graphics display or a plotting device. Assuming moderately powerful computing hardware, throughputs of 50 plates per day are easily achieved. The programs work equally well with peroxidase, beta-galactosidase, or alkaline phosphatase conjugated second antibodies, and with whole cell or soluble antigens.